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NFPA 150 Firesafety In Racetrack Stables 1985



National Fire Protection Association Batterymarch Park, Quincy, MA 02269

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There is a concern that the growing use of synthetic materials may produce more or additional toxic products of combustion in a fire environment. The Board has, therefore, asked all NFPA technical committees to review the documents for which they are responsible to be sure that the documents respond to this current concern. To assist the committees in meeting this request, the Board has appointed an advisory committee to provide specific guidance to the technical committees on questions relating to assessing the hazards of the products of combustion.

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NFPA 150
Standard on
Firesafety in Racetrack Stables
1985 Edition

This edition of NFPA 150, *Standard on Firesafety in Racetrack Stables*, was prepared by the Technical Committee on Firesafety in Racetrack Stables, and acted on by the National Fire Protection Association, Inc. at its Annual Meeting held May 13-17, 1985 in Chicago, Illinois. It was issued by the Standards Council on June 6, 1985, with an effective date of June 26, 1985, and supersedes all previous editions.

The 1985 edition of this standard has been approved by the American National Standards Institute.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

Origin and Development of NFPA 150

After a series of disastrous fires in racetrack stables in 1975, NFPA established the Committee on Firesafety in Racetrack Stables. This Committee began its work in 1976 with the establishment of three working subcommittees covering construction, occupancy requirements and fire protection. NFPA 150, *Standard on Firesafety in Racetrack Stables*, was first published in 1979. For this second edition, minor changes were made to the standard which include the printing of Table 3 from NFPA 220, *Standard on Types of Building Construction*, in Appendix A.

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*This list represents the membership at the time the Committee was balloted on the text of this edition.
Since that time, changes in the membership may have occurred.*

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NFPA 150

Standard on

Firesafety in Racetrack Stables

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates explanatory material on that paragraph in Appendix A.

Information on referenced publications can be found in Chapter 5 and Appendix B.

Chapter 1 General

1-1 Scope. This standard contains minimum requirements for the construction, fire protection and occupancy of racetrack stable areas, including those at state, county, and local fairgrounds. Dormitories and grandstand areas are the responsibilities of the Committees on Safety to Life and Tents, Grandstands, and Air-Supported Structures, respectively (NFPA 101®, *Life Safety Code*®; NFPA 102, *Standard for Assembly Seating, Tents, and Air-Supported Structures*).

1-2 Purpose. It is the intent of these requirements to prevent the loss of life (including animal life) and property from fire in racetrack stables.

1-3 Definitions.

Approved. Acceptable to the "authority having jurisdiction."

NOTE: The National Fire Protection Association does not approve, inspect or certify any installations, procedures, equipment, or materials nor does it approve or evaluate testing laboratories. In determining the acceptability of installations or procedures, equipment or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization concerned with product evaluations which is in a position to determine compliance with appropriate standards for the current production of listed items.

Assigned Barn. The barn area where a trainer has been allocated stalls and space for his horses and equipment.

Assistant Trainer. The person next to the listed trainer of record, and the one who frequently handles the day-to-day affairs in training a horse or horses.

Authority Having Jurisdiction. The "authority having jurisdiction" is the organization, office or individual responsible for "approving" equipment, an installation or a procedure.

NOTE: The phrase "authority having jurisdiction" is used in NFPA documents in a broad manner since jurisdictions and "approval" agencies vary as do their responsibilities. Where public safety is primary, the "authority having jurisdiction" may be a federal, state, local or other regional department or individual such as a fire chief, fire marshal, chief of a fire prevention

bureau, labor department, health department, building official, electrical inspector, or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the "authority having jurisdiction." In many circumstances the property owner or his designated agent assumes the role of the "authority having jurisdiction"; at government installations, the commanding officer or departmental official may be the "authority having jurisdiction."

Concessionaires. The holders of a concession, such as the track kitchen, granted by the racetrack management.

Fire Door Assembly. A combination of a fire door, frame, hardware, and other accessories which together provide a specific degree of fire protection to the opening (see NFPA 80, *Standard for Fire Doors and Windows*).

Fire Resistance Rating. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, *Standard Methods of Fire Tests of Building Construction and Materials*.

Flamespread Rating. The flamespread rating of a material refers to a numerical classification obtained according to NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*.

Halter. Piece of equipment which fits around a horse's head, like a bridle, but lacking a bit. It is used in handling horses around the stable. In the event of a fire, horses can be led from stalls by halters.

Labeled. Equipment or materials to which has been attached a label, symbol or other identifying mark of an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Listed. Equipment or materials included in a list published by an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. The "authority having jurisdiction" should utilize the system employed by the listing organization to identify a listed product.

Mechanical Hotwalker. An electrical device which automatically walks a horse or several horses in a circle with an approximate radius of 10 to 15 ft (3.05 to 4.58 m).

Mixed Occupancy. A building or stable area where both horses and humans reside.

Racetrack Management. The persons who control or execute the affairs of the track itself.

Shall. Indicates a mandatory requirement.

Should. Indicates a recommendation or that which is advised but not required.

Smoke Developed Rating. The smoke developed rating of a material refers to a numerical classification obtained according to NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*.

Tack. Stable gear; also rider's racing equipment.

Tack Room. A storage area for tack and stable equipment.

Track Security. Persons employed to protect racetrack property and to ensure the proper passage of licensed personnel; track security may be internal or external.

Trainer. The person responsible for the care and training of a horse or horses.

Chapter 2 Construction

2-1 New Construction.

2-1.1* Types of Construction. The types of construction listed in NFPA 220, *Standard on Types of Building Construction* shall be deemed suitable for the construction of buildings included in the scope of this standard.

2-1.2* Stall and Area Limitations. Stall and area limitations for various types of construction shall be in conformance with those designated in Table 2-1.2.

2-1.3 Minimum Occupancy Separations.

2-1.3.1 For the purpose of this standard, occupancies in barns shall be grouped as follows:

Group A: Stalls for housing horses.

Group B: Human sleeping rooms/quarters.

Group C: Feed rooms, tack rooms, equipment storage rooms and other related rooms.

Group D: Blacksmith shops, kitchens and mechanical equipment rooms.

Group E: Toilet facilities.

2-1.3.2 Minimum occupancy separation shall be as depicted in Table 2-1.3.2.

Table 2-1.3.2 Minimum Occupancy Separation in Hours
(See Note.)

Occupancy Group	A	B	C	D	E
A	—	—	—	—	—
B	1 hr	—	—	—	—
C	2 hrs	2 hrs	—	—	—
D	2 hrs	2 hrs	2 hrs	—	—
E	1 hr	0	1 hr	0	—

NOTE: A 50-percent reduction in the requirements shall be allowed in fully sprinklered buildings.

Table 2-1.2 Stall and Area Limitations (See Note.)

Construction Type	Stalls		Area Limitations	
	Sprinklered	Unsprinklered	Sprinklered	Unsprinklered
Type I (443-332) fire resistive	Unlimited	180	Unlimited	45,000 sq ft (4180.5 m ²)
Type II (222) Protected non-combustible/limited combustible	Unlimited	180	Unlimited	45,000 sq ft (4180.5 m ²)
Type II (111) Protected noncombustible/limited combustible	Unlimited	120	Unlimited	32,000 sq ft (2972.9 m ²)
Type II (000) Noncombustible/limited combustible	Unlimited	Not Permitted	Unlimited	Not Permitted
Type III (211-200) Protected ordinary and ordinary construction	80	Not Permitted	20,000 sq ft (1858.0 m ²)	Not Permitted
Type IV (2HH) Heavy timber	Unlimited	Not Permitted	Unlimited	Not Permitted
Type V (111-000) Protected wood frame and unprotected wood frame	60	Not Permitted	16,000 sq ft (1486.45 m ²)	Not Permitted

NOTE: The number of stalls refers to stalls only, and does not include feed storage rooms, tack rooms, wash racks, drying rooms, toilets, etc.

2-1.4 Exposure Protection. Adjacent buildings shall be separated in accordance with NFPA 80A, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*.

2-1.5 Height Restrictions. Barns shall be limited to two stories in height.

Exception: Fully sprinklered buildings.

2-1.6* Exit Travel Distances. All structures shall have exits within 100 ft (30.5 m) of travel distance from any point in the structure. This distance may be increased by 50 percent for fully sprinklered buildings.

2-1.7 Electrical, mechanical and fuel burning equipment shall be installed in accordance with the following appropriate NFPA standards:

NFPA 31, *Standard for the Installation of Oil Burning Equipment*

NFPA 54, *National Fuel Gas Code*

NFPA 70, *National Electrical Code*®

NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*

NFPA 211, *Standard for Chimneys, Fireplaces, and Vents*

NFPA 58, *Standard for the Storage and Handling of Liquefied Petroleum Gases*.

2-1.8 Insulation.

2-1.8.1 In buildings of Type I and Type II construction, exposed combustible insulation shall be prohibited.

2-1.8.2 In buildings of Type III, Type IV and Type V construction, exposed insulation shall have a flamespread rating of 100 or less and a smoke developed rating of 450 or less when tested in accordance with NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*. In addition, insulation types which melt and drip, or which produce loose flaming brands when exposed to fire, shall be prohibited unless protected by an approved thermal barrier.

2-1.9 Stall Dividers.

2-1.9.1 In sprinklered buildings, stall dividers shall be constructed of materials which meet Class A, B, or C interior finish rating as defined in NFPA 101, *Life Safety Code*.

2-1.9.2* In unsprinklered buildings, noncombustible stall dividers shall be provided for a maximum of every four adjacent stalls. All stall dividers shall be at least 7½ ft (2.3 m) high and shall form a tight barrier between stalls. Interior faces of noncombustible dividers shall be permitted to be surfaced with materials meeting Class A, B, or C interior finish ratings.

2-2 Existing Construction.

2-2.1* Combustible Barns. Existing barns of Types III, IV, and V construction shall be equipped throughout with an approved automatic extinguishing system.

2-2.2* Minimum Occupancy Separations. Existing barns shall comply with the minimum occupancy separation as specified in 2-1.3.

Chapter 3 Occupancy Requirements

3-1 Management Responsibilities.

3-1.1 All trainers or their assistants and all concessionaires or their assistants shall serve as liaison with the track security and fire protection supervisors.

3-1.2 All trainers or their assistants and all concessionaires or their assistants shall acquaint themselves with and brief their employees as to the following:

- (a) Smoking regulations.
- (b) Location of fire alarm notification system in immediate area of assigned barn.
- (c) Location of all fire extinguishers and extinguishing equipment in assigned barn area.

(d) Regulations regarding occupancy, use of extension cords for extending electrical circuits, and use of electrical appliances.

(e) Regulations regarding storage and use of feed, straw, tack and supplies.

(f) Track regulations with regard to fire and security, copies of which shall be provided to all trainers or their assistants and concessionaires or their assistants. These regulations shall be used in instructing members of the trainers' and concessionaires' staffs assigned to the barn area.

3-1.3 All security personnel, trainers and concessionaires or their assistants shall be available for instruction in basic fire protection practice.

3-1.4 Signs shall be posted in every barn, and associated buildings dealing with the following information:

- (a) Location of manual fire alarm stations, emergency telephones or other methods of fire alert.
- (b) Location of fire protection first-aid appliances.
- (c) Emergency procedures specific to the particular track facilities.

3-2 Kitchens. Track kitchens shall be protected in accordance with NFPA 96, *Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment*.

3-3* Open Burning. No open burning shall be permitted.

3-4 Smoking. Smoking shall be prohibited except in designated safe areas. Proper warning signs shall be posted.

3-5 Waste Removal and Housekeeping.

3-5.1 An adequate and systematic procedure for general housekeeping, cleanliness, waste removal and orderliness shall be maintained.

3-5.2 Adequate detached noncombustible trash containers, for other than stall waste, shall be provided and a frequent removal program established.

3-5.3 Hay or straw shall not be stored in aisles.

3-6 Electrical Systems and Appliances.

3-6.1 Electrical systems and appliances shall be installed in accordance with the requirements of NFPA 70, *National Electrical Code*.

3-6.2 Use of any portable electrical appliance shall be restricted to the following conditions:

- (a) Multiple-outlet adaptors shall be prohibited.
- (b) Not more than one continuous extension cord shall be used to connect one appliance to the fixed receptacle and such cord shall be listed for hard service and properly sized for the intended application.
- (c) Extension cords shall be used only on a temporary (immediate) basis.

Chapter 4 Fire Protection

3-6.3 Extension cords shall not be supported by any metal object such as nails, screws, hooks and pipes.

3-6.4 Plug caps and receptacles used in extension cords shall be heavy duty type equipped with a reliable grounding pole and attached to the cord in a manner to provide strain relief.

3-6.5 All electrical appliances used in the stable area shall be listed.

3-6.6 Outdoor electrical appliances (e.g., mechanical hotwalkers) served by the barn electrical system shall be installed in accordance with NFPA 70, *National Electrical Code*.

3-6.7 Portable cooking and heating appliances shall be used only in spaces designated for such use provided they are separated from the stabling and storage areas of the barn by construction as set forth in 2-1.3.2.

3-6.8 Portable electrical heating and cooking appliances shall be of a type which automatically interrupts electrical current to the heating element when the appliance is not in its normal operating position (tip-over disconnect).

3-6.9 Use of exposed element heating appliances such as immersion heaters shall be prohibited.

3-6.10* The electrical distribution system, in barns to be constructed, shall be so installed that at least one receptacle is provided immediately outside each stall. Receptacles and wiring shall be installed in positions which minimize the possibility of damage by horses.

3-6.11 Permanently installed lighting facilities shall be provided throughout the barn.

3-7* Hot Water. Permanently installed facilities for the production and distribution of hot water shall be provided in each barn.

3-8 Flammable Liquids. The storage of flammable and combustible liquids, except those used for medicinal purposes, shall be prohibited.

3-9 Control of Vehicular Traffic. All vehicular access shall be subject to local established rules. Aisles shall be maintained clear of obstruction at all times and access to fire equipment shall not be blocked.

3-10 Animal Evacuation.

3-10.1 A halter shall be worn by each horse at all times.

3-10.2 Animals shall be restricted to ground floor occupancy in multistory barns.

Exception: Barns which are constructed so that each floor level exits at ground level for the length of the building on at least one building side.

4-1 Sprinkler Protection.

4-1.1 Where automatic sprinklers are required, the system shall be installed and maintained in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, and NFPA 13A, *Recommended Practice for the Inspection, Testing and Maintenance of Sprinkler Systems*.

4-1.2 Automatic sprinkler systems shall be designed in accordance with Ordinary Hazard Group 2 classification.

4-2 Water Supplies. The water supply shall be capable of providing pressure and discharge capacity required for automatically supplying sprinklers, hydrants, and hose lines.

4-3* Fire Hydrants. Fire hydrants shall be provided as follows:

(a) All portions of major track structures such as barns, kitchens, and maintenance buildings shall be within 300 ft (91.44 m) of a fire hydrant.

(b) Fire hydrants shall be located so that a fire department pumper can approach to within 10 ft (3.05 m) of the hydrant. Fire hydrants shall be protected from vehicle damage.

4-4 Fire Extinguishers. Fire extinguishers shall be provided in accordance with NFPA 10, *Standard for Portable Fire Extinguishers*. Such extinguishers shall have a minimum 2A rating and shall be not more than 75-ft (22.86-m) travel distance from any point within a building.

4-5 Alarm Systems.

4-5.1 All major unsprinklered track buildings such as barns, kitchens, and maintenance buildings shall have a manual fire alarm system. The alarm system shall sound an audible alarm for purposes of initiating emergency action.

4-5.1.1 Manual fire alarm stations shall be so located as to be readily available in all portions of the premises in accordance with NFPA 72A, *Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems for Guard's Tour, Fire Alarm and Supervisory Service*.

4-6 Lightning Protection. Lightning protection, where provided, shall be installed according to NFPA 78, *Lightning Protection Code*.

Chapter 5 Referenced Publications

5-1 The following documents or portions thereof are referenced within this standard and shall be considered part of the requirements of this document. The edition indicated for each reference is current as of the date of

the NFPA issuance of this document. These references are listed separately to facilitate updating to the latest edition by the user.

5-1.1 NFPA Publications. National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

NFPA 10-1984, *Standard for Portable Fire Extinguishers*

NFPA 13-1985, *Standard for the Installation of Sprinkler Systems*

NFPA 13A-1981, *Recommended Practice for the Inspection, Testing and Maintenance of Sprinkler Systems*

NFPA 31-1983, *Standard for the Installation of Oil Burning Equipment*

NFPA 54-1984, *National Fuel Gas Code*

NFPA 58-1983, *Standard for the Storage and Handling of Liquefied Petroleum Gases*

NFPA 70-1984, *National Electrical Code*

NFPA 72A-1985, *Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems for Guard's Tour, Fire Alarm and Supervisory Service*

NFPA 80A-1980, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*

NFPA 90A-1985, *Standard for the Installation of Air Conditioning and Ventilating Systems*

NFPA 90B-1984, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*

NFPA 96-1984, *Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment*

NFPA 211-1984, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances*

NFPA 220-1985, *Standard on Types of Building Construction*

NFPA 251-1985, *Standard Methods of Fire Tests of Building Construction and Materials*

NFPA 255-1984, *Standard Method of Test of Surface Burning Characteristics of Building Materials*

Appendix A

This Appendix is not a part of the requirements of this NFPA document but is included for information purposes only.

A-2-1.1 Since 1960 Fire Retardant Treated Wood (FRTW) has been recognized by Insurance Rating Bureaus and Model Building Codes as an alternate for noncombustible in some building areas. Such uses are applicable to nonbearing partitions of 1-hour fire resistance or less in Types I and II constructions. (Every piece of fire retardant treated lumber and plywood should be identified by an approved seal or label of a testing laboratory.)

A-2-1.2 Table A-2-1.2 is a reprint of Table 3 from NFPA 220, *Standard on Types of Building Construction*.

A-2-1.6 Exit distances are more stringent than those specified in NFPA 101, *Life Safety Code*, because of the difficulty of evacuating panicked horses from the structure.

Table A-2-1.2 Fire Resistance Requirements for Type I through Type V Construction

	Type I		Type II			Type III		Type IV	Type V	
	443	332	222	111	000	211	200	2HH	111	000
EXTERIOR BEARING WALLS —										
Supporting more than one floor, columns or other bearing walls	4	3	2	1	0 ¹	2	2	2	1	0 ¹
Supporting one floor only	4	3	2	1	0 ¹	2	2	2	1	0 ¹
Supporting a roof only	4	3	1	1	0 ¹	2	2	2	1	0 ¹
INTERIOR BEARING WALLS —										
Supporting more than one floor, columns or other bearing walls	4	3	2	1	0	1	0	2	1	0
Supporting one floor only	3	2	2	1	0	1	0	1	1	0
Supporting a roof only	3	2	1	1	0	1	0	1	1	0
COLUMNS —										
Supporting more than one floor, bearing walls or other columns	4	3	2	1	0	1	0	H ²	1	0
Supporting one floor only	3	2	2	1	0	1	0	H ²	1	0
Supporting a roof only	3	2	1	1	0	1	0	H ²	1	0
BEAMS, GIRDERS, TRUSSES & ARCHES —										
Supporting more than one floor, bearing walls or columns	4	3	2	1	0	1	0	H ²	1	0
Supporting one floor only	3	2	2	1	0	1	0	H ²	1	0
Supporting a roof only	3	2	1	1	0	1	0	H ²	1	0
FLOOR CONSTRUCTION	3	2	2	1	0	1	0	H ²	1	0
ROOF CONSTRUCTION	2	1½	1	1	0	1	0	H ²	1	0
EXTERIOR NONBEARING WALLS	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹	0 ¹



Those members listed that are permitted to be of approved combustible material.

¹Requirements for fire resistance of exterior walls, the provision of spandrel wall sections, and the limitation or protection of wall openings are not related to construction type. They need to be specified in other standards and codes, where appropriate, and may be required in addition to the requirements of this standard for the construction type.

²"H" indicates heavy timber members; see NFPA 220, *Standard on Types of Building Construction*, for requirements.

A-2-1.9.2 This requirement is intended to reduce the speed with which a fire will spread by creating noncombustible dividers of solid construction between every group of four stalls.

A-2-2.1 Installation of an automatic extinguishing system in existing barns of Types III, IV and V construction should be accomplished on an individual facility basis as negotiated with the local authority having jurisdiction.

A-2-2.2 Compliance with minimum occupancy separations in existing barns should be accomplished on an individual facility basis as negotiated with the local authority having jurisdiction.

A-3-3 Open Burning. This restriction is intended primarily to prohibit open flame heaters in the stable area. It is not intended to limit properly installed and equipped devices such as gas water heaters and blacksmith forges as long as they are approved by the authority having jurisdiction.

A-3-6.10 One duplex receptacle located between two stalls will adequately meet this requirement.

A-3-7 Hot Water. Heated water is required by trainers and grooms for care of the horses. Without the provision of permanently piped hot water, sundry devices, even though prohibited, will be used to heat the water. When planning such installations it is desirable to provide at least 2 gal of water per hour ($2.103 \times 10^{-6} \text{ m}^3/\text{sec}$) at 140°F (60°C) for each stabled horse.

A-4-3 Hydrant spacing requirements are more stringent than those specified in NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, due to the difficulty of manipulating long lines in such congested areas.

Appendix B Referenced Publications

B-1 The following documents or portions thereof are referenced within this standard for informational purposes only and thus should not be considered part of the requirements of this document. The edition indicated for each reference is current as of the date of the NFPA issuance of this document. These references are listed separately to facilitate updating to the latest edition by the user.

B-1.1 NFPA Publications. National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

NFPA 24-1984, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*

NFPA 78-1983, *Lightning Protection Code*

NFPA 80-1983, *Standard for Fire Doors and Windows*

NFPA 101-1985, *Life Safety Code*

NFPA 102-1978, *Standard for Assembly Seating, Tents, and Air-Supported Structures*

NFPA 220-1985, *Standard on Types of Building Construction*